

Claims.

1. A process for manufacturing a catalyst which comprises a cobalt species on a titania support, comprising mixing together said titania support and an aqueous solution of cobalt ammine carbonate, and heating to an elevated temperature sufficient to effect decomposition of the cobalt ammine carbonate and precipitation of an insoluble cobalt compound onto said titania support.
2. A process as claimed in claim 1, comprising saturating a titania support with an aqueous solution of cobalt ammine carbonate, and removing the excess of the solution, before heating the resulting product to a temperature sufficient to effect decomposition of the cobalt ammine carbonate.
3. A process as claimed in claim 1, wherein the mixture of titania support and said cobalt solution is heated to a temperature sufficient to effect decomposition of the cobalt ammine carbonate in situ before separating the solid catalyst from the mixture and drying.
4. A process as claimed in any of claims 1 to 3, wherein the titania support and cobalt solution are maintained at an elevated temperature for a period of at least 60 minutes.
5. A process as claimed in any of claims 1 to 4, wherein said temperature is in the range 60 to 110°C.
6. A process as claimed in any of claims 1 to 5, further comprising the step of calcining the resulting catalyst product at a temperature between 200 and 600°C.
7. A process as claimed in any of claims 1 to 6 further comprising the step of reducing the resulting catalyst product with hydrogen at a temperature between 300 to 550°C.
8. A process as claimed in claim 7, further comprising the step of dispersing the reduced catalyst in particulate form product in a carrier matrix.

9. A process as claimed in any one of claims 1 to 9, wherein the pH of the mixture of titania particles and aqueous cobalt ammine carbonate complex is maintained above 7.5 during the heating step.
10. A catalyst or catalyst precursor made by the process claimed in any of claims 1 to 9.
11. A process for the hydrogenation of an organic compound comprising an olefinic, carbonyl, nitrile, nitro or aromatic group, comprising reacting said compound with hydrogen in the presence of a catalyst as claimed in claim 10.
12. A process for the formation of a hydrocarbon by the reaction of carbon monoxide with hydrogen in the presence of a catalyst as claimed in claim 10.
13. A process as claimed in claim 11 or claim 12 further comprising the step of forming an active catalyst in situ by reducing a catalyst precursor as claimed in claim 10 with hydrogen before conducting said hydrogenation reaction.
14. A process for the oxidation of an organic compound by reaction with an oxygen-containing compound in the presence of a catalyst as claimed in claim 10.